C 5250-3

paper board packaging

1982 Buying Forecast

vol. 67 no. 1

January 1982

paper board packaging

1982 Buying Forecast

on the cover

This month's cover represents the broad range of equipment in the box converting industry for which capital expenditures will be made in 1982 according to our projections. Cover design by Orrin Mitch.

features

1982 Buying Forecast

Industry Looks to a Brighter Year 32

Second Half Upsurge for Converters in 1982 33

New Equipment, Retrofits, Technological Upgrades are in Converter's Buying Plans for this year 42

Folding Carton Awaits Consumer Confidence 48

Rigid Box Output to Shrink 6% 127

by Jim Young

Product of the Month Review 56

Equipment and supplies that have generated a substantial response from our readers and represent some of the most purchased items by converters.

EQUIPMENT ENGINEERING

Computer-Controlled Gluer Revolutionizes Industry 96

Microprocessor memory able to retain over 40 carton dimensions.

Boxmakers Tour Ward Plant 100

Model 10000, 28 x 67" Mini Flexo Folder-Gluer and the rotary diecutter featuring a new mechanical, 100% stripper are highlights of plant tour for select group of boxmakers.

UV: Methods of Generation 116

The purpose, advantages and disadvantages of different UV curing lamps is important to know when battling the high cost of energy.

by George F. Baer

Profits Up, Waste Down With Total Web Control 122

QUALITY CONTROL

Zero Rub Resistance Check in Performance 104

Getting the best results depends on a variety of factors.

by Abe Farsiou

(continued on page 6)

Publisher
Ted Vilardi, Jr.

Editor
James C. Young

Senior Editor
Fred Sharring

Associate Editor
Mark Arzoumanian

Assistant Editors
James A. Lucy
Walter Kuzio
Shirley Harte

Production Director
Joan McGuire

Production Manager
Sharon Sarelson

Composition Director
Diana Szolnoki

Circulation Director
Raymond B. Hussey

Circulation Manager
Shirley Goldman

Art Director
Orrin Mitch

Associate Art Director
Frank Andriella

Assistant Art Director
Ken Kummer

Art Assistant
Delia Nobbs

Reprint Services
Carol Muccio

Advertising Services
Gerri Lindner

Chairman and Editor-in-Chief
Don Gussow

President
Marvin Toben

Executive Vice President, Editorial Director
Ben Miyares

Board of Contributing Editors

Quality Assurance: George G. Maltenfort, Consultant
Administration: Allan S. Voluck, Executive Vice President, United Container Company
Sales & Marketing: William Dailey, VP Marketing, Interstate Container Corp
Inks & Graphics: David C. Miller, Senior Staff Engineer, St Regis Paper Co
International:
France: Maurice Pariat, Consultant
UK: John A. Moore, Consultant
Australia: John Landman, Managing Director, Tasman U E B Industries, Ltd
Argentina: Roberto J. Fernandez Crisial, Director, Fernandez Y Campo, S A I C

1982 by Magazines For Industry, Inc., 747 Third Avenue, New York, New York, 10017 (212) 838-7778. An Equal Opportunity, Employee Owned Company. Published in conjunction with: Official Board Markets, Official Container Directory, International Container Directory.

Subscriptions rates, U.S. and Canada $11.00 per year. All other countries $14.00 per year. Single copies $2.00.

Address all subscription and change of address requests to Paperboard Packaging, 747 Third Ave., New York, N.Y. 10017. Printed monthly at Standard Printing Co., Canton, Ohio. Second Class Postage paid at New York, N.Y. and at additional mailing offices.

Member
American Business Press
Member Sympathisants, FEFCO

◄Circle no. 201 for information on Bobst ad

◄Circle no. 202 for information on Royal Zenith ad

Circle no. 203 for information on Copar ad►

features continued

OPERATIONS MANAGEMENT

Making Your Computer Decision 112

The Computer: A Plant Manager's Best Friend 114
Computer system designed to meet the challenges of today's corrugating industry.

EQUIPMENT IN USE

Italian Boxmaking Plant Celebrates 30th Anniversary 82
The Villani family in Italy began by boxing ceramic tile in wooden crates in 1951.

First North American Installation of Curioni Flexo Press is Biltwell 86
After some 50 European installations, the first Curioni Flexo folder gluer in North America is installed at Biltwell Containers in Montreal.

INTERNATIONAL REPORT

Italian Joint Venture Will Sell Converting Equipment Worldwide 108
Industry leaders combine over 100 years experience in the manufacture of corrugators and finishing machinery.

S & S Splice with Torres Enters into Sixth Year 94
CTS splicer demonstrated in Pamplona, Spain is proof of commitment to improve splicing productivity in corrugated board.

by Maurice G. Pariat, Contributing Editor

LEGISLATION

Reaganomics A Boon for Equipment Leasing 102
New law slashes rental rates.

by Robert E. Dell' Artino

departments

8 Comment
12 Newsletter
17 News
26 Industry Statistics
130 Product of the Month
131 New Products & Equipment
135 New Box Products
136 International Dateline
144 People
146 New Literature
148 Industry Events
150 Short Runs
151 Classified Advertising
155 Advertising Index
156 Publisher's Report on Supplies

COMING

FEBRUARY	Used Equipment
MARCH	Man of the Year Award
APRIL	Annual PPC Competition

EDITORIAL OFFICES

Eastern
747 Third Avenue
New York, N.Y. 10017
212-838-7778
Telex: 620408

Midwest
20 North Wacker Drive
Chicago, IL 60606
312-782-4963

Europe
Alain Charles House
27 Wilfred Street
London SW1E6PR
01 828 6107
Telex: 28905
Cables: SWEFOD SW1

MARKETING SALES OFFICES

Eastern
Matthew J. Giordano
747 Third Avenue
New York, N.Y. 10017
212-838-7778
Telex: 620408

Midwest & West Coast
Howard S. Neft
20 No. Wacker Drive
Chicago, IL 60606
312-782-4963

Europe
Dee Wakefield
Sweatman & Fordham
Alain Charles House
27 Wilfred Street
London SW1E6PR
01 828 6107
Telex: 28905
Cables: SWEFOD SW1

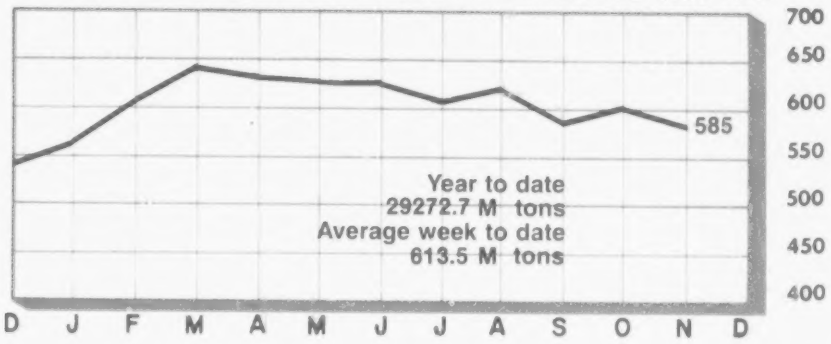
Japan
Sumio Oka
International Media Rep., Ltd.
2-29 Toranomon 1-chome
Minato-ku, Tokyo, 105 Japan
502-0656
Telex: J22633
Cables: MEDIAREP TOKYO

PAPERBOARD PACKAGING (USPS 420020) is published monthly in conjunction with OFFICIAL BOARD MARKETS (weekly), OFFICIAL CONTAINER DIRECTORY (semi-annual), and INTERNATIONAL CONTAINER DIRECTORY (Annual) by Magazines for Industry, Inc. 747 Third Ave., New York, N.Y. 10017. Don Gussow, chairman and CEO; Marvin Toben, president; Ben Miyares, executive vice president, editorial director; Ted Vilardi, Jr., vice president; Robert M. Stone, secretary; Neil B. Rose, treasurer and controller.

Magazines For Industry, Inc. also publishes: Beverage Industry, Candy & Snack Industry, Candy Marketer Quarterly, Dairy Field, Food & Drug Packaging, Food Product Development, The Glass Industry, Candy & Snack Industry Update Newsletter & Inside Industry Newsletter; Beverage Industry Annual Manual, Candy & Snack Industry Buying Guide; Candy Marketer Almanac & Buyers Directory; Dairy Industries Catalog; The Glass Industry Directory, and Books For Industry.

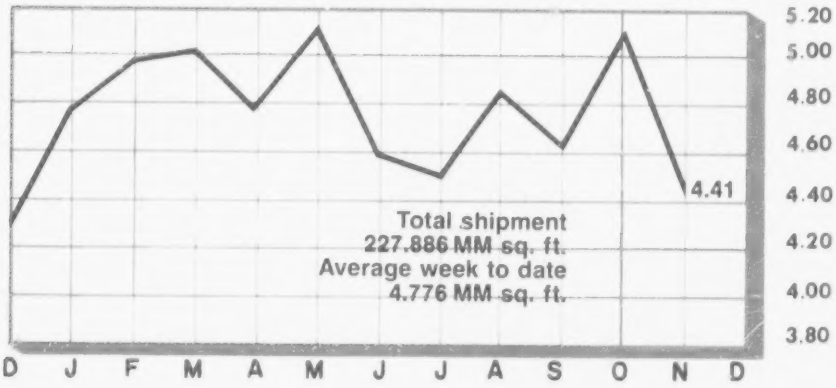
INDUSTRY STATISTICS

PAPERBOARD PRODUCTION 1981-WEEKLY AVERAGE 1,000 Tons



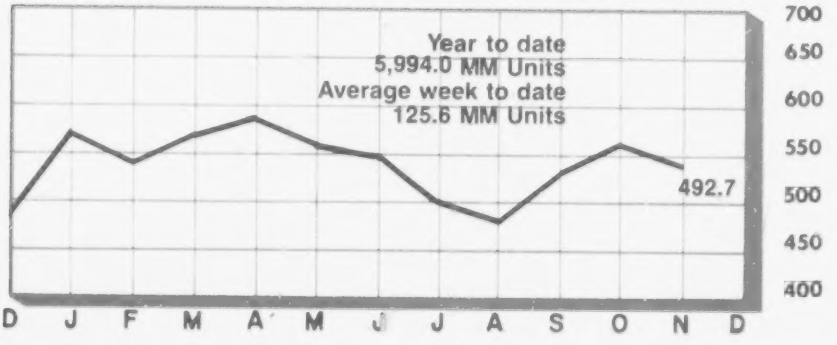
PAPERBOARD MILL OPERATIONS:
With a single month of 1981 remaining, total average-week paperboard output was 3% ahead of '80, compared with a drop last year of 1.9% from '79 and a rise in '79 of 3.5% from 1978. This year's record includes an average-week increase of 3.1% in containerboards and of 2.7% in boxboards. The former grades' volume has been sustained in much of the year by strong export demand, as energy-intensive production costs rise even more greatly overseas than here. However, both foreign and domestic board markets have been fading as 1981 closes, with a sharpening economic recession.

FIBRE BOX SHIPMENTS 1981-WEEKLY AVERAGE Billion Sq. Ft.



PAPERBOARD-TYPE PRODUCTION:
In November, 1830.5 M tons of containerboards (down 5.1% from '80) and 676.4 M of boxboards (same) combined for a 5% drop overall, as projected from the American Paper Institute's "production by furnish" data. One effect of this late-year downturn is that the containerboard/boxboard output ratio is turning toward the traditional 2-to-1, from the near 3-to-1 approached in earlier months. However, this does not reflect any long-term improvement in boxboard fortunes, since at end of November their average-week tonnage was 6% below that of 1973—eight years ago.

COMPOSITE CAN OUTPUT 1981-WEEKLY AVERAGE Million Units



RIGID PAPER BOXES:
Through the first 11 months of 1981, set-up box producers reported an increase of some 5.5% over last year's grand total billings, but with sharply decreasing margins as 1981 business slackened in the later months, as had 1980. Seven of the eight National Paperbox & Packaging area divisions remained above the billings of 1980, with a "minus" only in the business-beset Midwest automotive sector. The good news is that average value per shipped ton is up 8½% in the year—normally a spectacular gain. The bad news is that even this can not keep pace with the money inflation.

Circle no. 215 for information on Carlson Jones ad →
Circle no. 214 for information on American Capital Resources ad →

1982 Buying Forecast

Industry Looks to a Brighter Year

Despite a bleak fourth quarter in 1981 and an unpromising first quarter in 1982, converters in the corrugated and solid fiber sectors can look forward to an upturn in business during 1982. The upturn should slow the rate of decline for the industry by year's end.

However, it will take sharp business planning, on the part of converters, to realize the fullest benefit of the predicted increase in this year's business. There is much to be considered.

First, the expected surge in 1982 is predicated on the well established relationship between Gross National Product and shipments and orders of corrugated and solid fiber boxes. Historically, orders and shipments closely track GNP.

While there is much disagreement among forecasters, as to magnitude, all agree there will be a gain in real GNP this year. It follows that our industry will track that gain.

When will the current downturn bottom out? Most industry experts look to a significant recovery in GNP (and box shipments) in the second half of 1982.

There is little doubt regarding this recovery. The only questionable areas are when and how much. The box converter can be encouraged this year by several factors that will provide ultimate impetus to box demand and a more favorable environment for running his box plant.

On the business side, box converters will undoubtedly derive large benefits from the Reagan Administration's program of accelerated depreciation on capital investments. This relief is long overdue in an industry of high capital intensity. Converters can now contemplate equipment purchases with a new perspective that will allow them to implement plans to boost productivity via machinery technology.

Underlying the new depreciation advantages to buying equipment is the present indication that the Federal Reserve will ease its tight money policy as the Reagan Administration continues to walk the tightrope between inflation and recession. While any easing of money availability by the Fed will be strictly monitored against fueling inflationary trends, the loosening will have a positive affect upon interest rates and provide a positive psychological environment.

An improved psychological environment is something that should permeate the population of the United States in 1982. Tax cuts in the consumer sector, coupled with a rise in personal savings in the second quarter, should boost demand significantly for paperboard products.

Continuing trend

Year after year the money spent by each American for packaging increases. This year will see a continuance of this trend in a population which has become demographically older. For boxmakers it's important to note that a mature population in the U.S.A. represents a population with the greatest spending power via discretionary income. Consumer spending, coupled with pent up demand in the housing and automobile sectors, will be an important factor in the demand boxmakers will experience this year.

As inflation moderates, recession dissipates and the consuming public brightens its attitudes, boxmakers will find demand accelerating. Their response to that demand will be adequate and substantially enhanced, compared to previous upturns, through an increased awareness of sharper business tactics such as increased productivity, leaner operations, and emphasis on value added profitmaking.

From all indications there is nothing on the horizon to indicate any abatement of the long-term growth of the corrugated and solid fiber box industries. Despite claims that other materials are encroaching upon paperboard as a packaging material, the fact remains that paperboard is by far the leading packaging material. It will not soon be replaced.

One has only to consider the long range planning of large corporate box operations and independents, alike, to realize that growth is the buzzword for the long-term. Equipment manufacturers and suppliers were nearly unanimous during the fall of 1981 in describing traffic through various converting trade show exhibits as "people who are serious in their long-term planning and gathering of information, making contacts to implement those plans in the near future." Window shopping converters were at a minimum during the fall shows of 1981. □

Second Half Upsurge for Converters in 1982

Second half upward swing should point to bright future for converters.

When you have behind you a bad third quarter, a worse fourth quarter, and are into a first quarter 1982 that one industry observer described as "bad, bad," it's difficult to present an optimistic forecast of things to come. However, our study of the converting industry indicates that although 1982 will be difficult, it will be a year of slowing in rates of decline. It should also be a year which will establish marketing, operational and sales practices that will exist long into the future of boxmaking. While a surge is predicted for the second half of 1982, this surge will at most serve only to moderate the losses of a poor first quarter. The impact of the second half surge upon the industry will be largely predicated on timing.

An early upswing would do much to help the industry in light of existing economic conditions and the current turmoil of adjusting to a new administration in Washington. A late upsurge will have less influence in moderating losses in 1982 but will set the stage for the future and still vindicate expenditures made this year.

It can be seen that 1981 sales of corrugated and solid fiber boxes approximated $9.8 billion and shipments approached 246 billion sq ft. Thus, shipments were 1.8% higher than 1980, but 1.9% off the record setting 250.6 billion sq ft of 1979.

This year, beginning poorly, will suffer from late 1981's decline as those losses impact upon the present. Current continuing flatness in the boxmaking industry, in the early months, will result in a 1982 corrugated and solid fiber dollar volume of $9.5 billion, which would be a loss of 2.5%. Similarly, it is expected that shipments will decline from 245.8 billion sq ft in 1981 to 239.7 billion sq ft in 1982.

Continuing trends

It appears 1982 will shape up to be a more-of-the-same kind of year. It will be at least the third year of continuing developments that *Paperboard Packaging* has been reporting. There will be a continuation of the proliferation of sheet plants, albeit the rate of proliferation may slow. In contrast, the decline in number of larger, more costly combiner plants continues, as does the divestment of box operations by large integrated corporations. However, throughout 1982, this divestment should take place only in those operations that are marginally productive or obsolete or the victim of a shift in market as occassioned by the sunbelt exodus and other relocations of the market.

It should be assumed that the rise in number of sheet plants and correlated trimming of combiner plants will skew production figures. Large combiner plants will account for some 90% of the industry's output in 1982.

These plants are able to gain such a major share of the market because they can accomodate high volume and long run orders due to their greater capacity.

Conversely, the independent, one plant sheet operation will continue to be a highly competitive factor that the larger producers cannot ignore. Independent operations tend to be managed by entrepreneurs who are not hampered by the layers of decision making executive echelons inherent to the larger, multi-operation companies. Therefore, independent operations can be more responsive to the marketplace, more readily implement production innovations, and by their nature often have less burdensome overhead.

As 1981 wore on — and square footage produced rose — it became apparent that other continuing trends previously reported in *Paperboard Packaging* were still in motion. High test board continued to be used, as the industry made further gain in the industrial and agricultural sectors by supplying them with shipping containers.

These industrial and agricultural markets caused the single wall corrugated box to suffer somewhat, as customers demanded more double and triple wall boxes and bulk bins.

There is no reason to doubt that this trend will continue as box buyers still demand shipping containers that will hold heavier loads, over long distances, while providing good protection at low cost, compared to non-paperboard shipping containers, such as wire baskets, wooden crates and steel drums.

Little regulatory impact

The year 1981 brought little negative impact upon the converting industry by way of government regulation. Given the current administration's attitude toward bureaucratic red tape, the industry should enjoy relatively little interference from government agencies in 1982.

Indeed, during 1981 the Environmental Protection Agency (EPA) backed off on proposed rules governing the use and disposal of inks and their "hazardous" wastes. An EPA investigation showed that ink manufacturers and box makers were moving into low-lead inks. This trend eliminated the need for control over lead-containing sludges from the printing press.

Similarly, OSHA — again, in line with Reagan administration dictums — has extended time to the converting industry to study the noise problem generated by converting machinery. OSHA's current, realistic goal is to develop adequate hearing protection for workers without resorting to costly machinery modifications.

Some new factors

Productivity — buzzword of the 80s — has inevitably led boxmakers to consider the computer as the new, additional working tool it is. Many boxmakers were introduced to the computer through machinery applications supplied by equipment manufacturers. These specific applications, involving micro-processors, were a wonder, indeed. Converters acquired machines with NC controls, micro-processors memories that could retain and actuate order changes. The exposure was there and grew to the realization that the computer was not an electronic mystery reserved soley for the manipulation of banking and insurance statistics.

Now, in 1982, one can hardly find a viable converting operation that does not own or is not about to purchase a

1982 Buying Forecast

Second Half Upsurge

computer. The computer is here. It is being used to control full plant operations and perform the administrative functions of the converting industry, such as cost estimating, payroll, fringe benefits, and a multitude of services limited only by the computer involved.

Color on boxes

While there was some decline in the use of colors in boxmaking during 1981, this is viewed as a temporary situation. Difficult economic times inspired lackluster interest on the part of the consumer, and consequently the box buyer, to the subtleties of color printing. In addition, generic brands with their black only printing had high visibility among consumers. However, this trend will not last.

As the economy turns up, in the second half, the industry will experience more demand for color and more retail orientation to boxes. Simply stated: brighter times will stimulate the demand for brighter presentations. This is a psychological factor, but nevertheless a reality.

Another detriment to color on boxes in 1981 was the high cost of inks. Ink prices escalated with inflation and this was exacerbated by the testing necessary to produce functionally stable low-lead inks. Inflation is now moderating and ink companies have behind them most of the "trench work" required to develop the new ink lines.

With the acceleration in the cost of ink moderating, the quality of inks improving and the inroads of flexography into box converting, 1982 should be the year of color in converting.

Two important factors in this forecast of more color are improved flexography and the tremendous potential in preprinted liner. Flexography has come a long way from the "wet ink, rubber stamp process" concept with which it has often been unfairly associated. Today, flexography produces a quality of print that was once only dreamed of for the process. It is used on some of the finest boxes and displays, provides much versatility to the converter, and its costs are within bounds.

To this add the burgeoning interest in preprinted linerboard and one can color the future of boxmaking in any hue. The practical advent of preprinted linerboard will also work to provide marketing opportunities for that portion of the converting industry possessing the capability. It is conceived that linerboard could be preprinted in one geographic location and shipped to another geographic location where it would run through the corrugator and be converted to the end product.

In addition to this new national or extended-region marketing opportunity (a new concept to boxmaking) for the producers of preprinted linerboard, there exists the potential for new sales by the purchasing plant. A plant purchasing preprinted liner could offer a whole new array of box products to its marketplace. For multi-plant operations, this concept presents the possibilty of still further consolidation and cost cutting via a central preprint linerboard operation that would ship the printed liner to its satellite converting operations. Any concept presenting so much potential is not realized. This year should provide much growth in the preprinting of linerboard.

Productivity plus

Paperboard Packaging is predicting a 2 to 2.5% decline in 1982 from 1981 levels. However, it must be borne in mind that this annual decline will occur during a very difficult economic period in the United States. This difficult period will persist through the first half of the year for which the prediction is made.

While the forecast is dismal, boxmakers must remember that 1982 will also be a year in which there should be a resurgence in consumer spending through a release of pent up demand, and hopefully, more stimulated auto and housing markets. In addition, equipment manufacturers are increasingly providing options to automate functions. This translates to greater productivity and better profits as related to volume.

In terms of profits, implementation of various productivity actions may provide an excellent opportunity for profits to become relatively stronger. There is no doubt that a new consciousness exists regarding productivity in boxmaking.

The industry has posted a 0.4% year-to-year productivity during 1980 and while the figure is not yet in for 1981, it is expeced that box converting will post another gain in productivity.

These expectations are based upon the keen awareness in the industry of the need for greater productivity. This awareness is reflected by the response of machinery manufacturers who have computerized and automated equipment to increase production per crew member. Managers are managing more astutely. The fat has been trimmed. Converting companies now think of full capital investment utilization, higher output rates, fuller utilization of capacity, less order changes through elimination of marginal accounts, more diversified duties for employees and certainly, more efficent use of energy.

Cumulatively, these productivity stratagems have placed boxmakers in a position to fully capitalize upon their business. This will continue through 1982 — and long into the future — and have the effect of moderating the forecast by *Paperboard Packaging*. While the decline may be moderated, there also exists the distinct possiblity that productivity, particularly through machinery technology, could eliminate one percent.

Since *Paperboard Packaging* estimates a 1982 sales volume of $9.8 billion dollars, it is expected that total industry expenditures for materials and supplies will reach 780,000,000.

The following forecasts are based upon *Paperboard Packaging's* computerized data regarding shifts of equipment in the United States. In addition, the forecast includes such non-tangibles as pricing trends, competitive influences, geographic dispersion of types of converting, and other market factors. For these reasons, *Paperboard Packaging's* forecast may be at variance with others. However, we attest to the reliability of our data base and the industry sources from which interpretive information was garnered. □

1982 Buying Forecast

Second Half Upsurge

Total United States

MAJOR EQUIPMENT

Corrugators	624
Independent single facers	84
Letterpress printer-slotters	2261
Flexographic printer-slotters	722
Flexographic printing folder-gluers	1078
Folder-gluers	882
Infold gluers	78
Tapers and folder-tapers	2142
Folder-stitchers and stitchers	1581
Die cutters, platen jaw type	747
Die cutters, flat bed reciprocating	1026
Die cutter stations, rotary	674
Wax impregnators, and other coaters on corrugators	460
Curtain coaters	222
Laminators and labelers	457
Utilizers and load strappers	1054
Bundle tyers	1508
Computers	523

ESTIMATED EXPENDITURES

MATERIALS

Corrugating adhesives	$144,400,000
Printing inks	113,400,000
Waxes and coatings	98,300,000
Adhesives, including synthetic resins	16,600,000
Jointing tapes	26,500,000
Stitch wire and staples	6,800,000
Miscellaneous	49,900,000

SUPPLIES

Printing plates and dies	54,400,000
Cutting rule and dies	41,600,000
Pallet materials	30,200,000
Twine	5,300,000
Strapping: steel and plastic	21,200,000
Baling supplies	2,300,000
Oil and lubricants	10,600,000
Miscellaneous	27,200,000
Maintenance supplies	27,200,000

West South Central

ARKANSAS — LOUISIANA — OKLAHOMA — TEXAS

MAJOR EQUIPMENT

Corrugators	53
Independent single facers	4
Letterpress printer-slotters	184
Flexographic printer-slotters	68
Flexographic printing folder-gluers	75
Folder-gluers	71
Infold-gluers	11
Tapers and folder-tapers	170
Folder-stitchers and stitchers	130
Die cutters, platen jaw type	43
Die cutters, flat bed reciprocating	67
Die cutter stations, rotary	74
Wax impregnators, and other coaters on corrugators	44
Curtain coaters	39
Laminators and labelers	37
Utilizers and load strappers	117
Bundle tyers	129
Computers	48

ESTIMATED EXPENDITURES

MATERIALS

Corrugating adhesives	$12,265,000
Printing inks	9,131,000
Waxes and coatings	11,963,000
Adhesives, including synthetic resins	1,290,000
Jointing tapes	2,103,000
Stitch wire and staples	559,000
Miscellaneous	4,238,000

SUPPLIES

Printing plates and dies	4,321,000
Cutting rule and dies	3,128,000
Pallet materials	2,565,000
Twine	453,000
Strapping: steel and plastic	2,353,000
Baling supplies	195,000
Oil and lubricants	900,300
Maintenance supplies	2,310,000

Mountain

ARIZONA — COLORADO — IDAHO — MONTANA — NEVADA — NEW MEXICO 8 UTAH — WYOMING

MAJOR EQUIPMENT

Corrugators	8
Independent single facers	0
Letterpress printer-slotters	32
Flexographic printer-slotters	14
Flexographic printing folder-gluers	29
Folder-gluers	20
Infold-gluers	2
Tapers and folder-tapers	38
Folder-stitchers and stitchers	27
Die cutters, platen jaw type	10
Die cutters, flat bed reciprocating	18
Die cutter stations, rotary	13
Wax impregnators, and other coaters on corrugators	2
Curtain coaters	6
Laminators and labelers	8
Utilizers and load strappers	14
Bundle tyers	38
Computers	11

ESTIMATED EXPENDITURES

MATERIALS

Corrugating adhesives	$1,350,000
Printing inks	2,094,000
Waxes and coatings	864,000
Adhesives, including synthetic resins	392,500
Jointing tapes	470,100
Stitch wire and staples	116,000
Miscellaneous	639,700

SUPPLIES

Printing plates and dies	1,299,500
Cutting rule and dies	947,500
Pallet materials	387,000
Twine	133,000
Strapping: steel and plastic	281,000
Baling supplies	29,000
Oil and lubricants	135,900
Maintenance supplies	348,000

← Circle no. 216 for information on Langston ad

Pacific

ALASKA — CALIFORNIA — HAWAII
OREGON — WASHINGTON

MAJOR EQUIPMENT

Corrugators	72
Independent single facers	5
Letterpress printer-slotters	232
Flexographic printer-slotters	77
Flexographic printing folder-gluers	165
Folder-gluers	74
Infold-gluers	2
Tapers and folder-tapers	188
Folder-stitchers and stitchers	137
Die cutters, platen jaw type	103
Die cutters, flat bed reciprocating	117
Die cutter stations, rotary	65
Wax impregnators, and other coaters on corrugators	71
Curtain coaters	30
Laminators and labelers	50
Utilizers and load strappers	104
Bundle tyers	230
Computers	74

ESTIMATED EXPENDITURES

MATERIALS

Corrugating adhesives	$16,661,000
Printing inks	13,236,000
Waxes and coatings	14,557,000
Adhesives, including synthetic resins	1,936,000
Jointing tapes	2,326,000
Stitch wire and staples	589,000
Miscellaneous	5,757,000

SUPPLIES

Printing plates and dies	7,404,000
Cutting rule and dies	4,845,000
Pallet materials	3,484,000
Twine	808,000
Strapping: steel and plastic	2,092,000
Baling supplies	265,000
Oil and lubricants	1,223,000
Maintenance supplies	3,138,000

East North Central

ILLINOIS — INDIANA — MICHIGAN
OHIO — WISCONSIN

MAJOR EQUIPMENT

Corrugators	163
Independent single facers	26
Letterpress printer-slotters	646
Flexographic printer-slotters	168
Flexographic printing folder-gluers	276
Folder-gluers	241
Infold-gluers	20
Tapers and folder-tapers	626
Folder-stitchers and stitchers	465
Die cutters, platen jaw type	222
Die cutters, flat bed reciprocating	265
Die cutter stations, rotary	179
Wax impregnators, and other coaters on corrugators	113
Curtain coaters	41
Laminators and labelers	147
Utilizers and load strappers	314
Bundle tyers	408
Computers	130

ESTIMATED EXPENDITURES

MATERIALS

Corrugating adhesives	$37,720,000
Printing inks	30,437,000
Waxes and coatings	22,197,000
Adhesives, including synthetic resins	4,551,000
Jointing tapes	7,745,000
Stitch wire and staples	2,000,000
Miscellaneous	13,300,000

SUPPLIES

Printing plates and dies	13,418,000
Cutting rule and dies	11,322,000
Pallet materials	7,889,000
Twine	1,434,000
Strapping: steel and plastic	6,316,000
Baling supplies	601,000
Oil and lubricants	2,769,000
Maintenance supplies	7,105,000

East South Central

ALABAMA — KENTUCKY —
MISSISSIPPI — TENNESSEE

MAJOR EQUIPMENT

Corrugators	39
Independent single facers	3
Letterpress printer-slotters	147
Flexographic printer-slotters	48
Flexographic printing folder-gluers	67
Folder-gluers	64
Infold-gluers	6
Tapers and folder-tapers	134
Folder-stitchers and stitchers	98
Die cutters, platen jaw type	40
Die cutters, flat bed reciprocating	56
Die cutter stations, rotary	46
Wax impregnators, and other coaters on corrugators	26
Curtain coaters	18
Laminators and labelers	25
Utilizers and load strappers	72
Bundle tyers	74
Computers	32

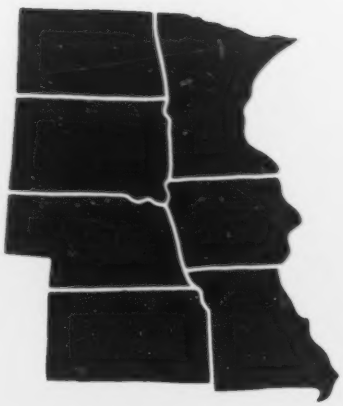
ESTIMATED EXPENDITURES

MATERIALS

Corrugating adhesives	$9,025,000
Printing inks	7,316,000
Waxes and coatings	6,342,000
Adhesives, including synthetic resins	1,078,000
Jointing tapes	1,658,000
Stitch wire and staples	421,000
Miscellaneous	3,118,000

SUPPLIES

Printing plates and dies	3,475,000
Cutting rule and dies	2,414,000
Pallet materials	1,887,000
Twine	260,000
Strapping: steel and plastic	1,448,000
Baling supplies	143,700
Oil and lubricants	662,500
Maintenance supplies	1,700,000



West North Central

IOWA — KANSAS — MINNESOTA — MISSOURI — NEBRASKA — NORTH DAKOTA — SOUTH DAKOTA

MAJOR EQUIPMENT

Corrugators	36
Independent single facers	5
Letterpress printer-slotters	124
Flexographic printer-slotters	39
Flexographic printing folder-gluers	48
Folder-gluers	60
Infold-gluers	14
Tapers and folder-tapers	132
Folder-stitchers and stitchers	77
Die cutters, platen jaw type	51
Die cutters, flat bed reciprocating	57
Die cutter stations, rotary	50
Wax impregnators, and other coaters on corrugators	26
Curtain coaters	25
Laminators and labelers	24
Utilizers and load strappers	68
Bundle tyers	97
Computers	32

ESTIMATED EXPENDITURES

MATERIALS

Corrugating adhesives	$8,331,000
Printing inks	5,892,000
Waxes and coatings	7,350,000
Adhesives, including synthetic resins	971,382
Jointing tapes	1,633,000
Stitch wire and staples	331,000
Miscellaneous	2,878,800

SUPPLIES

Printing plates and dies	2,629,000
Cutting rule and dies	2,686,000
Pallet materials	1,742,000
Twine	341,000
Strapping: steel and plastic	1,367,700
Baling supplies	132,700
Oil and lubricants	611,500
Maintenance supplies	1,569,000

New England

CONNECTICUT — MAINE MASSACHUSETTS — NEW HAMPSHIRE RHODE ISLAND — VERMONT

MAJOR EQUIPMENT

Corrugators	40
Independent single facers	13
Letterpress printer-slotters	148
Flexographic printer-slotters	48
Flexographic printing folder-gluers	65
Folder-gluers	43
Infold-gluers	3
Tapers and folder-tapers	157
Folder-stitchers and stitchers	118
Die cutters, platen jaw type	49
Die cutters, flat bed reciprocating	80
Die cutter stations, rotary	27
Wax impregnators, and other coaters on corrugators	26
Curtain coaters	6
Laminators and labelers	36
Utilizers and load strappers	70
Bundle tyers	99
Computers	36

ESTIMATED EXPENDITURES

MATERIALS

Corrugating adhesives	$9,256,000
Printing inks	7,288,000
Waxes and coatings	4,612,000
Adhesives, including synthetic resins	978,035
Jointing tapes	1,942,000
Stitch wire and staples	507,500
Miscellaneous	3,198,700

SUPPLIES

Printing plates and dies	3,415,000
Cutting rule and dies	2,652,000
Pallet materials	1,935,000
Twine	348,000
Strapping: steel and plastic	2,378,000
Baling supplies	147,400
Oil and lubricants	679,500
Maintenance supplies	1,743,500

Middle Atlantic

NEW JERSEY — NEW YORK — PENNSYLVANIA

MAJOR EQUIPMENT

Corrugators	117
Independent single facers	20
Letterpress printer-slotters	457
Flexographic printer-slotters	126
Flexographic printing folder-gluers	187
Folder-gluers	164
Infold-gluers	19
Tapers and folder-tapers	404
Folder-stitchers and stitchers	299
Die cutters, platen jaw type	125
Die cutters, flat bed reciprocating	249
Die cutter stations, rotary	118
Wax impregnators, and other coaters on corrugators	72
Curtain coaters	19
Laminators and labelers	90
Utilizers and load strappers	187
Bundle tyers	246
Computers	91

ESTIMATED EXPENDITURES

MATERIALS

Corrugating adhesives	$27,075,000
Printing inks	21,501,000
Waxes and coatings	13,116,000
Adhesives, including synthetic resins	3,060,000
Jointing tapes	4,998,000
Stitch wire and staples	1,286,000
Miscellaneous	9,356,200

SUPPLIES

Printing plates and dies	9,459,500
Cutting rule and dies	8,364,000
Pallet materials	5,662,000
Twine	864,000
Strapping: steel and plastic	3,761,000
Baling supplies	431,200
Oil and lubricants	1,987,000
Maintenance supplies	5,100,000

Circle no. 273 for information on International Paper Box ad→

New Equipment, Retrofits, Technological Upgrades are in Converter's Buying Plans for 1982

South Atlantic

DELAWARE — DISTRICT OF COLUMBIA — FLORIDA — GEORGIA — MARYLAND — NORTH CAROLINA — PUERTO RICO — SOUTH CAROLINA — VIRGINIA — WEST VIRGINIA

MAJOR EQUIPMENT

Corrugators	96
Independent single facers	8
Letterpress printer-slotters	291
Flexographic printer-slotters	141
Flexographic printing folder-gluers	166
Folder-gluers	145
Infold-gluers	1
Tapers and folder-tapers	293
Folder-stitchers and stitchers	234
Die cutters, platen jaw type	35
Die cutters, flat bed reciprocating	117
Die cutter stations, rotary	102
Wax impregnators, and other coaters on corrugators	80
Curtain coaters	38
Laminators and labelers	40
Utilizers and load strappers	152
Bundle tyers	187
Computers	69

ESTIMATED EXPENDITURES

MATERIALS	
Corrugating adhesives	$22,215,000
Printing inks	16,699,000
Waxes and coatings	17,008,000
Adhesives, including synthetic resins	2,342,000
Jointing tapes	3,624,000
Stitch wire and staples	1,006,000
Miscellaneous	7,676,900
SUPPLIES	
Printing plates and dies	9,278,000
Cutting rule and dies	4,318,000
Pallet materials	4,646,000
Twine	657,000
Strapping: steel and plastic	3,057,000
Baling supplies	353,800
Oil and lubricants	1,630,700
Maintenance supplies	4,185,000

Search for greater productivity will stimulate boxmakers to make expenditures.

Capacity will not be strained in 1982 and there is little prospect of anyone investing in additional capacity. Therefore, the industry will make investments for equipment to boost productivity.

Productivity and the new capital investment depreciation credits will be the stimulus for boxmakers to modernize their plants. Currently, there are many factors favoring investment by boxmakers. In a mature industry such as box converting, obsolescence exists to a significant degree.

While there will be little new plant or capacity investment, many obsolete machines will be replaced. As they are replaced it will require that newer contingent equipment also be replaced, or upgraded, to keep pace with the new. In itself, obsolescence will create significant investment on the part of boxmakers.

The weeding process that has been in progress for the past few years has removed marginal and unprofitable plants. This has emphasized competition among survivors. No longer can plants run obsolete equipment and produce boxes that are acceptable to their customers in the face of competition from more modern plants.

In addition to obsolescence, productivity will spur sales of equipment. Perhaps productivity is of greater significance than obsolescence. Boxmakers know that there is a pent up demand for consumer goods which will ultimately trigger an increased demand for capital goods. It is this pent up demand that should trigger much buying activity in the second half of 1982. Increased buying on the part of consumers should launch the economy into a new, vital cycle of relatively long endurance.

Shorter runs

There has been a slowly evolving change in the pattern of demand and boxmakers will find a continuing trend toward short runs, smaller order sizes and growth in smaller boxes. This changing demand factor will necessitate new requirements in machinery and boxmakers will have to acquire the machinery appropriate to their particular market's demands. While this will mostly affect finishing operations, the corrugator is having new options applied to it and boxmakers will respond.

Much is being done on the wet end of the corrugator to bring its speed up to the dry end. New innovations are reducing core waste at the splicer. Other developments in web alignment are reducing the amount of web breaks incurred during operation. Edge control devices are boosting optimal output levels and strides are being made in adhesive control.

Development of the cold corrugating concept continues. However, it will be

1982 Buying Forecast

some time before cold corrugating is a practical commercial reality. Nevertheless, the promise of energy savings will sustain the concept of cold corrugating until it becomes an operational reality. As with any new concept, when it arrives cold corrugating will require the strictest of cost justification. It will probably only be considered when a new corrugator is contemplated rather than as a replacement for existing corrugators.

The environment and energy are also factors contributing favorably to capital investment. The lessening of OSHA and EPA pressures will reduce, or at least extend, the time needed to pour dollars into compliance programs. This will free dollars for capital investment.

However, this does not preclude capital spending on effluent and waste control. EPA, while reducing some pressures, is still very much a presence that will not allow flagrant violations of what it perceives as detrimental to the environment. OSHA will also exert influences, and prompt the industry to make compliance purchases.

In the area of energy usage and savings, the converting industry has and will continue to invest in equipment and structural modifications that will alleviate the cost of heat, light, cooling, and production. Conservation of steam and the heat to produce it are much on the minds of corrugating operations. All facets of converting are looking at electrical energy and exploring means to reduce usage. Chief among innovations of this kind are recycling units that capture heated air exhausted from the plant, recycle it while drawing off the heat, and return the preheated air back into the plant. Substantial heat savings on the cost of heating have been reported from such installations.

There is much to be said for the existing factors favoring capital investment this year. But, as always, there also exists some contrary factors. These are significant and cannot be discounted.

Feeling the impact

Early enthusiasm with the Reagan Administration's economic program is lessening as the nation tightens its belt and begins to feel the impact of Federal cutbacks. This has an adverse impact upon both the business and the consumer sectors. Both tend to be more circumspect about spending money.

And, money is costly. Despite predictions that the Fed will loosen its rein on money availability and despite the fact that interest rates are not as high as they have been, borrowing money is still costly and will continue to be so. One boxmaker told us that "we have gone from *very high* expensive money, to *high* expensive money, and I'm hoping to see some *low* expensive money."

Inflation permeates everything. Equipment manufacturers have been subjected to extremely high cost to produce their machinery. This has been reflected in the price of equipment. The two factors, high interest rates and high capital equipment costs, are distinctly at odds with one another and present great difficulty for the converting industry.

A further negative influence on capital investment is that high interest rates and high capital investment costs are occurring at a time when the industry's existing machinery capacity is not being pushed. There is plenty of capacity in place. Not all of it is being used. Since the industry has an abundance of capacity, there is little need for new plants. This year we can look for few major new plants to be opened and, correspondingly, an absence of need to equip new plant structures.

The foregoing factors, which work against capital investment, have influenced the used machinery field. Presently, through closings and lackluster capital investment, there is a plentiful supply of used equipment available to the marketplace. While much of this equipment goes overseas, there is no doubt some new equipment purchases are lost to used machinery if a box plant perceives a good buy in both value and quality.

Finishing equipment

In the box plant there will be much emphasis on finishing equipment as the aforementioned changes in order patterns continue. The trend to growth of smaller size boxes will bode well for the various mini-flexo lines. These units handle small boxes at high speeds with great precision. In addition, these units handle a wide range of box sizes, making them extremely attractive to converters.

The demand for more printing on boxes should continue and flexography will grab a large share of this increase. Flexographic printing is now producing excellent quality, at high speeds, and with inks that are very low in lead content. Two, three and four color flexographic printing is on the rise as this new era of superior flexo quality is recognized by purchasers.

By the same token, boxmakers must recognize that the sophisticated flexo of today requires printing skills to extract the finest quality. This may be a mixed blessing: finer flexo quality means more educable and skilled crews as opposed to machinery operators with little or no prior experience. This, of course, raises the labor cost but is worth the price in terms of return on value added during the converting operation.

With the emerging demands for new boxes there is a correlative demand for diecutting. Both rotary and platen diecutting is increasing at respectable rates. Platen diecutting, long recognized for accuracy, is becoming faster through innovative techniques offered by manufacturers. Improved stripping, easier accessibility for mounting dies and plates, and better off-loading techniques are among the improvements. Rotary diecutting also has been the subject of much improvement in the areas of stripping and accuracy. Rotary diecutting has met the challenge of higher speeds when operating in-line with other equipment.

It is safe to say that diecutting equipment and printing presses will continue to offer options that will increase productivity for the boxmaker. However, these manufacturers have long been involved with development of ever more sophisticated equipment. As speeds increase, accuracy becomes more true, and automatic operation and order change become commonplace. However, there still remains the problem of getting board and blanks on and off the converting line.

It is in the area of materials movement that great accomplishments have taken place. From pre-feeder to counter ejector, one can stand and marvel at today's modern converting line. Blanks are moved faster, with less damage than ever before. Laborious hand loading and off-loading are eliminated by these devices.

Similarly, there exist systems for movement of material through the plant, warehouse and shipping docks that protect product and eliminate labor. These will continue to be the object of boxmakers' buying plans as the industry prepares for another long term growth period via enhanced productivity.

Money will be spent on computers in 1982. Computers in box converting offer a wide variety of functions; mostly managerial. These include job estimating; sales reports; accounts receivable and payable; payrolls, etc. Now soft-

ware is available for the box plant operation. Computers can now store specs on a job, keep track of inventory, and provide up-to-the-minute reports on all jobs in progress. The computer (as a microprocessor) is already controlling many functions on the converting plant floor. These include order entry and order change. Order entry and change are commonly accomplished through computerization. The presence of computers in box plant operations has only begun. In the future there will be unprecedented computer applications taking place in box plants and this will be part of 1982's expenditures.

Expenditures up

In sheer dollars, capital investment expenditures by the box converting industry will be up in 1982. The industry will spend more than $7½ million to upgrade and modernize its collective production plant. There will probably be a tailing off in full line corrugator sales and our best estimates show that no more than five full corrugators will be sold in 1982.

This reflects the abundance of capacity, lack of new construction, and high capital investment costs. By the same token, a significant sum will be spent on component parts and retrofits to upgrade existing corrugators.

Such equipment as rotary diecutters and flexo folder-gluers will enjoy substantial popularity in 1982. Not all of these will be manufactured in the United States. These units are actively being marketed in the U.S. by foreign manufacturers who have geared their manufacturing and marketing to America.

To appeal to the domestic market, some foreign machinery manufacturers have "beefed up" the superstructure of their machines to match American expectations. In addition, they have allied themselves with stateside representatives (may of whom carry parts inventory) to cater to potential and real customers.

The impact on foreign manufacturers on the U.S. equipment market, while being felt, has not been devastating. Despite the fact that many foreign equipment manufacturers can offer price advantages, many converters are reluctant to invest so heavily in equipment of foreign origin. They fear inadequate after sales service.

It is difficult to assess this fear, as many in the industry have had no problem at all with after-sales support, while other converters have suffered traumatically over inadequate after-sales support. In any event, offshore machinery will continue to penetrate the American converting scene and it may be expected that those countries who offer favorable financing — via support of their home governments — will make even deeper penetrations. Reportedly, financing backed by foreign governments as a trade stimulant for their countries can run as low as nine percent.

These financial arrangements may change, or disappear altogether, as world economics react to the coming upturn. If the U.S. economy begins to turn up, Europe and the rest of the world will follow. This would affect currency exchanges, and the need for foreign governments to stimulate international trade. At present, the future of favorable foreign financing is open to conjecture. □

Folding Cartons Await Consumer Confidence

Look to latter part of 1982 for rebound to long term health.

Flat is the only way to describe the folding carton sector of the converting industry during 1981. And the forecast for 1982 indicates more of the same — flat. For this reason it appears that capital outlay for this industry will pretty much track the pattern of 1981, bringing with it an inflationary increase, but no real increases in units of machinery purchased. It is also doubtful that there will be much capital investment in physical plants or new construction in 1982.

Paperboard Packaging estimates that the folding carton industry will post a 1982 year-end value of shipments at $2,880,000,000 for an approximate increase of 4.9% over 1981's value of shipments, which registered at $2,748,000,000. Tonnage of boxboard in folding cartons in 1981 was 2,622,000 tons. For 1982 tonnage will be down 2.3% at 2,561,600 tons. These figures represent the inroads being made by other materials into the marketplace as well as the move to lighter grades in paperboard in recent years. This produces a greater area of boxes per ton of board. Competition from other materials such as plastics and shrink-packs has also been substantial over the past few years and again, in 1981, made inroads to some folding carton markets.

Paperboard Packaging's forecast of a 2.3% decline in tonnage and a 4.9% increase in dollar value of shipments for 1982 must be weighed carefully. Things are neither as good as they appear, nor as bad as they appear. It is difficult to judge how much actual tonnage has been lost to competing materials and how much has been supplanted by lighter board weights. Certainly, not all of the 2.3% decline can be attributed to lost folding carton business.

However, there is no doubt that, in a year when at least eight folding carton plants have been closed, the industry is losing some share of market to other materials. Despite this, the dollar value of shipments has increased, and will again this year. Again, it is difficult to

1982 Buying Forecast

judge exactly how much of the increased value of shipments can be attributed to inflation, and how much to value added during converting. The figures must be approached with caution.

Trends

The folding carton industry is subject to many emerging trends, and even experts are reluctant to make interpretations. During 1981 it appears that virgin grades began losing ground and recycled grades were gaining. At the same time, darker grades of recycled appeared to be losing.

This could possibly be the emergence of a new acceptance on the part of consumers for grades other than virgin in many applications. As an example, there is a trend among cosmetic companies to move away from SBS as the "only" board for their products.

Another negative factor during 1981 was an inventory imbalance. Because of this, orders improved but shipments did not. This would seem to indicate that there were increasingly more orders, but each order smaller in quantity. The inventory overload peaked in mid-81 and corrective procedures began in the third quarter. This inventory correction has continued even into this first quarter of 1982. Once inventory corrections have been accomplished, the folding carton industry will be in a much better position to cope with the problems of this year.

In position to cope

And there are problems. The folding carton industry, closely tied to consumer products and consumer spending, is subject to tremendous influence from the buying public. Disposable income and consumer spending will directly reflect upon sales of folding cartons. It is little wonder that the industry's performance has been lackluster during the past few years of rampant inflation, which eroded the public's buying power.

Over these past years, the U.S. packaged food industry has not been particularly robust. This industry is the largest user of folding cartons. The decline in American family size has not helped this market. It was expected that the decline in household size would stimulate sales of frozen and instant foods, but, even this hope never materialized. Similarly, carry-out foods have not been exceptionally strong.

While these products, frozen, instant, and carry-out foods have high visibility via advertising, their performance has been lackluster of late. This has worked against the folding carton industry. Even sports items and toys — large buyers of folding cartons — ran flat through 1981 and will continue so well into 1982.

At the same time, in the food industry, folding carton's largest buyer, the advent of generic packaging precluded much of the graphics once associated with these packages. Generic packaging requires much less sophisticated and multi-color printing, eliminating at least some of the value-added aspects of folding cartons for this sector.

Future is bright

The future can be bright for folding cartons. It probably will be. The industry has, and will continue, to upgrade its converting plant. Just about every stage of the converting line has been the recipient of improvement through machinery manufacturer's R&D. This is making the folding carton operation more cost effective while enabling a new responsiveness to market needs. Increased automation has boosted productivity and allowed the folding carton converter to take advantage of improvement in inks, printing technologies and other factors of converting.

Printing and design

The revived demand will be enhanced by the industry's inherent ability to produce fine, graphic communications upon its boxes for the benefit of its customer's products. There are few other packaging materials that can present the fine graphics of a well printed folding carton. The advantage of folding cartons is not confined solely to printing.

Design is a major factor. Folding cartons come in every conceivable form. Many box designs and shapes are used in areas other than originally intended: the tabletop window box for women's scarves; the milk carton containing confections. Folding carton design is not restricted only to shape of box. The industry has been successful in using other materials to produce better box function. An example would be the metal pour spout of a sugar box. No longer is the industry willing to sit back and let competitors invade its market. Much work is being done — often with materials other than paperboard — to produce better closures, better sealing, and easier opening of folding cartons.

And, these factors are not the only ones favoring folding cartons. Certainly, as consumer spending rises so will the demand for folding cartons. Certain other encroachers will lose ground to the folding cartons. One example would be the aluminum tray for frozen foods. Cost effectiveness should give the folding carton a greater share of this market as the future wears on. Ovenable board — from all indications — has a strong future and this will provide healthy markets to the folding carton industry.

Capital expenditures

Capital expenditures in the industry for 1982 will be directed toward boosting productivity in an effort to be cost effective.

To be sure, new equipment will be purchased, but the major target of capital spending programs will be for retrofits and rebuilds. Both boxmaker and equipment manufacturer confirms to *Paperboard Packaging* that this is the direction of the industry in 1982. Accessory equipment is also high on the list of purchases for this year. Laminators, sheeters, balers, packing, counting, and sealing equipment seem to be the machinery most needed.

The figures that follow are constructed around the demographic and geographic shifts in both the market and the folding carton industry. There is little in the way of major technological change. This suggests that the industry will follow the patterns of the previous few years regarding capital expenditures.

There does exist the emergence of some new technological applications. The newness resides more in the application than the technology. The computer is certainly a well established part of the folding box plant — both in the office and on the machinery. There will be a continuing use of the computer to control such operational functions as flexo order changes and gluing. Computers will garner their goodly share of capital spending. Another trend to watch is a turn toward the web flexo press as a process of printing upon folding cartons. There were an unexpected amount of these installations in 1981 and already going into 1982, *Paperboard Packaging* is informed of several confirmed orders, from folding box plants, for web flexo's. This bears watching as a trend

1982 Buying Forecast

could be emerging. While it seems unlikely that the web flexo could dislodge the well-entrenched offset process, reports indicate that web-flexo quality of print has been greatly improved. □

Total United States

Sheet cutters: guillotine	500
Sheeters, web fed	230
In-plant corrugated box-making equipment	53
Case sealers	258

MAJOR EQUIPMENT

Cutters and creasers	2694
Letterpress printing presses	674
Offset: sheet fed	777
web fed	—
up to three colors	291
over three colors	342
up to 60 inches	410
over 60 inches	156
Dry offset or letterset printing presses	125
Flexographic printing presses, sheet	13
Flexographic printing presses, web	210
Gravure printing presses, sheet	31
Gravure printing presses, web	105
Gluers, timed: right angle, infold/outfold, tapered tray	784
Gluers, untimed: straight line	1173
Waxers and waxing attachments	377
Laminators	125

ESTIMATED EXPENDITURES

Specialty papers	$64,200,000
Paper, milk containers	34,600,000
Inks, folding cartons and milk	125,800,000
Petroleum waxes, milk containers	19,000,000
Waxes and coatings, folding cartons	11,000,000
Corrugated containers	75,000,000
Die materials, including cutting rule	24,500,000
Press plates and other printing supplies, excluding ink (folding)	113,400,000
Press plates and other printing supplies, excluding ink (milk)	20,800,000
Adhesives, including synthetic adhesives	27,700,000
Embossing foils	18,800,000
Tapes	4,400,000
Miscellaneous supplies and materials (F.C.)	32,700,000
Maintenance supplies and materials (F.C.)	50,300,000
Maintenance supplies and materials (milk)	37,700,000

New England

CONNECTICUT — MAINE
MASSACHUSETTS — NEW HAMPSHIRE
RHODE ISLAND — VERMONT

MAJOR EQUIPMENT

Cutters and creasers	293
Letterpress printing presses	123
Offset printing presses	57
up to three colors	1
over three colors	22
up to 60 inches	35
over 60 inches	15
Dry offset or letterset printing presses	16
Flexographic printing presses	12
Gravure printing presses, sheet and web	2
Gluers, timed: right angle infold/outfold, tapered tray	59
Gluers, untimed: straight line	120
Waxers and waxing attachments	25
Laminators	14
Sheet cutters: guillotine	46
Sheeters, web fed	19
In-plant corrugated box-making equipment	5
Case sealers	18

ESTIMATED EXPENDITURES

Specialty papers	$6,650,000
Ink	10,680,000
Waxes and coatings (F.C.)	1,392,000
Corrugated container	81,500,000
Die materials	2,665,000
Press plates and printing supplies	2,660,000
Adhesives	2,567,000
Embossing foils	1,595,000
Tapes	373,000
Miscellaneous materials and supplies	2,775,000
Maintenance materials and supplies (F.C.)	7,469,704

Middle Atlantic

NEW JERSEY — NEW YORK — PENNSYLVANIA

MAJOR EQUIPMENT

Cutters and creasers	753
Letterpress printing presses	281
Offset printing presses	199
up to three colors	81
over three colors	104
up to 60 inches	118
over 60 inches	37
Dry offset or letterset printing presses	55
Flexographic printing presses	43
Gravure printing presses, sheet and web	36
Gluers, timed: right angle infold/outfold, tapered tray	226
Gluers, untimed: straight line	325
Waxers and waxing attachments	79
Laminators	27
Sheet cutters: guillotine	120
Sheeters, web fed	38
In-plant corrugated box-making equipment	9
Case sealers	52

ESTIMATED EXPENDITURES

Specialty papers	$18,370,000
Ink	35,996,000
Waxes and coatings (F.C.)	4,400,000
Corrugated container	21,460,000
Die materials	6,848,000
Press plates and printing supplies	38,400,000
Adhesives	7,650,000
Embossing foils	5,380,000
Tapes	1,259,000
Miscellaneous materials and supplies	9,357,000
Maintenance materials and supplies (F.C.)	25,180,000

← Circle no. 207 for information on Hycorr ad

South Atlantic

DELAWARE — DISTRICT OF COLUMBIA — FLORIDA — GEORGIA — MARYLAND — NORTH CAROLINA — PUERTO RICO — SOUTH CAROLINA — VIRGINIA — WEST VIRGINIA

MAJOR EQUIPMENT

Cutters and creasers	234
Letterpress printing presses	68
Offset printing presses	66
up to three colors	17
over three colors	22
up to 60 inches	26
over 60 inches	11
Dry offset or letterset printing presses	9
Flexographic printing presses	12
Gravure printing presses, sheet and web	25
Gluers, timed: right angle infold/ outfold, tapered tray	94
Gluers, untimed: straight line	110
Waxers and waxing attachments	62
Laminators	7
Sheet cutters: guillotine	40
Sheeters, web fed	23
In-plant corrugated box-making equipment	6
Case sealers	30

ESTIMATED EXPENDITURES

Specialty papers	$4,929,000
Ink	9,660,000
Waxes and coatings (F.C.)	3,454,000
Corrugated container	5,759,000
Die materials	2,128,000
Press plates and printing supplies	10,304,000
Adhesives	2,807,000
Embossing foils	1,444,000
Tapes	338,000
Miscellaneous materials and supplies	2,310,000
Maintenance materials and supplies (F.C.)	6,757,000

East North Central

ILLINOIS — INDIANA — MICHIGAN — OHIO — WISCONSIN

MAJOR EQUIPMENT

Cutters and creasers	646
Letterpress printing presses	223
Offset printing presses	214
up to three colors	78
over three colors	91
up to 60 inches	91
over 60 inches	56
Dry offset or letterset printing presses	22
Flexographic printing presses	54
Gravure printing presses, sheet and web	47
Gluers, timed: right angle infold/ outfold, tapered tray	174
Gluers, untimed: straight line	282
Waxers and waxing attachments	96
Laminators	43
Sheet cutters: guillotine	130
Sheeters, web fed	60
In-plant corrugated box-making equipment	15
Case sealers	68

ESTIMATED EXPENDITURES

Specialty papers	$16,868,000
Ink	33,054,000
Waxes and coatings (F.C.)	5,054,000
Corrugated container	19,000,000
Die materials	5,875,000
Press plates and printing supplies	35,260,000
Adhesives	6,639,000
Embossing foils	4,940,000
Tapes	1,156,000
Miscellaneous materials and supplies	8,592,000
Maintenance materials and supplies (F.C.)	23,000,000

East South Central

ALABAMA — KENTUCKY — MISSISSIPPI — TENNESSEE

MAJOR EQUIPMENT

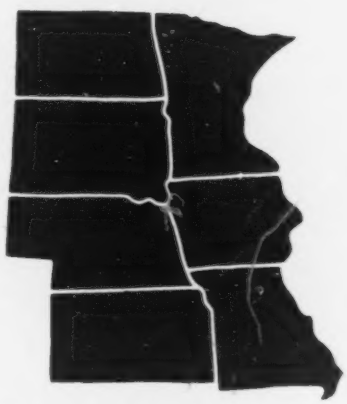
Cutters and creasers	85
Letterpress printing presses	24
Offset printing presses	31
up to three colors	21
over three colors	13
up to 60 inches	26
over 60 inches	2
Dry offset or letterset printing presses	2
Flexographic printing presses	13
Gravure printing presses, sheet and web	5
Gluers, timed: right angle infold/ outfold, tapered tray	41
Gluers, untimed: straight line	47
Waxers and waxing attachments	10
Laminators	3
Sheet cutters: guillotine	24
Sheeters, web fed	13
In-plant corrugated box-making equipment	6
Case sealers	6

ESTIMATED EXPENDITURES

Specialty papers	$2,638,000
Ink	5,169,000
Waxes and coatings (F.C.)	557,000
Corrugated container	3,082,000
Die materials	773,000
Press plates and printing supplies	5,515,000
Adhesives	1,211,000
Embossing foils	773,000
Tapes	181,000
Miscellaneous materials and supplies	1,343,000
Maintenance materials and supplies (F.C.)	3,616,000

(continued on page 111)

1982 Buying Forecast



West North Central

IOWA — KANSAS — MINNESOTA — MISSOURI — NEBRASKA — NORTH DAKOTA — SOUTH DAKOTA

MAJOR EQUIPMENT

Cutters and creasers	227
Letterpress printing presses	64
Offset printing presses	76
up to three colors	30
over three colors	31
up to 60 inches	46
over 60 inches	8
Dry offset or letterset printing presses	8
Flexographic printing presses	34
Gravure printing presses, sheet and web	5
Gluers, timed: right angle infold/ outfold, tapered tray	47
Gluers, untimed: straight line	106
Waxers and waxing attachments	34
Laminators	8
Sheet cutters: guillotine	42
Sheeters, web fed	23
In-plant corrugated box-making equipment	4
Case sealers	25

ESTIMATED EXPENDITURES

Specialty papers	$5,623,000
Ink	11,018,000
Waxes and coatings (F.C.)	1,894,000
Corrugated container	6,568,000
Die materials	2,064,000
Press plates and printing supplies	11,754,000
Adhesives	2,142,000
Embossing foils	1,646,000
Tapes	385,000
Miscellaneous materials and supplies	2,864,000
Maintenance materials and supplies (F.C.)	7,707,000

Pacific

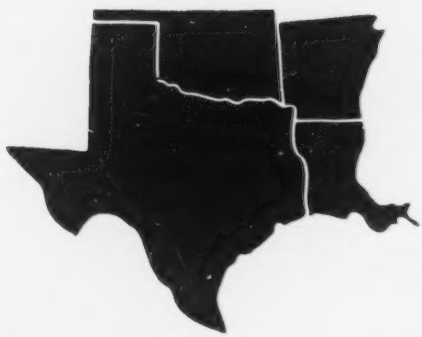
ALASKA — CALIFORNIA — HAWAII OREGON — WASHINGTON

MAJOR EQUIPMENT

Cutters and creasers	295
Letterpress printing presses	61
Offset printing presses	92
up to three colors	40
over three colors	46
up to 60 inches	47
over 60 inches	27
Dry offset or letterset printing presses	11
Flexographic printing presses	32
Gravure printing presses, sheet and web	11
Gluers, timed: right angle infold/ outfold, tapered tray	100
Gluers, untimed: straight line	121
Waxers and waxing attachments	55
Laminators	18
Sheet cutters: guillotine	65
Sheeters, web fed	33
In-plant corrugated box-making equipment	3
Case sealers	40

ESTIMATED EXPENDITURES

Specialty papers	$7,067,000
Ink	13,848,000
Waxes and coatings (F.C.)	3,064,000
Corrugated container	8,256,000
Die materials	2,683,000
Press plates and printing supplies	14,772,000
Adhesives	3,180,000
Embossing foils	2,069,000
Tapes	484,000
Miscellaneous materials and supplies	3,600,000
Maintenance materials and supplies (F.C.)	9,686,000



West South Central

ARKANSAS — LOUISIANA — OKLAHOMA — TEXAS

MAJOR EQUIPMENT

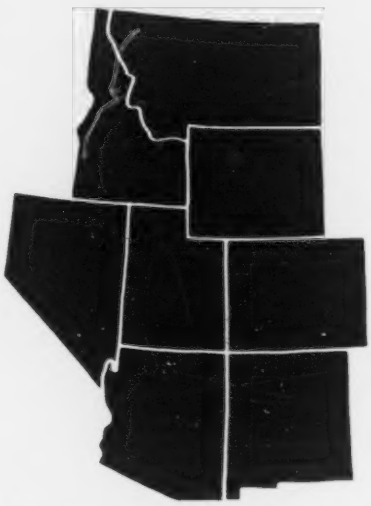
Cutters and creasers	134
Letterpress printing presses	29
Offset printing presses	32
up to three colors	9
over three colors	11
up to 60 inches	17
over 60 inches	—
Dry offset or letterset printing presses	2
Flexographic printing presses	23
Gravure printing presses, sheet and web	5
Gluers, timed: right angle infold/ outfold, tapered tray	35
Gluers, untimed: straight line	50
Waxers and waxing attachments	16
Laminators	5
Sheet cutters: guillotine	21
Sheeters, web fed	16
In-plant corrugated box-making equipment	5
Case sealers	18

ESTIMATED EXPENDITURES

Specialty papers	$2,464,000
Ink	4,830,000
Waxes and coatings (F.C.)	891,000
Corrugated container	2,679,000
Die materials	1,219,000
Press plates and printing supplies	5,152,000
Adhesives	1,197,000
Embossing foils	722,000
Tapes	169,000
Miscellaneous materials and supplies	1,255,000
Maintenance materials and supplies (F.C.)	3,378,000

(continued on page 127)

Rigid Box Output to Shrink 6%



Mountain

ARIZONA — COLORADO — IDAHO — MONTANA — NEVADA — NEW MEXICO — UTAH — WYOMING

MAJOR EQUIPMENT

Cutters and creasers	27
Letterpress printing presses	11
Offset printing presses	10
up to three colors	14
over three colors	2
up to 60 inches	4
over 60 inches	0
Dry offset or letterset printing presses	0
Flexographic printing presses	0
Gravure printing presses, sheet and web	0
Gluers, timed: right angle infold/outfold, tapered tray	8
Gluers, untimed: straight line	12
Waxers and waxing attachments	0
Laminators	0
Sheet cutters: guillotine	12
Sheeters, web fed	5
In-plant corrugated box-making equipment	0
Case sealers	1

ESTIMATED EXPENDITURES

Specialty papers	$789,000
Ink	1,547,000
Waxes and coatings (F.C.)	—
Corrugated container	922,000
Die materials	246,000
Press plates and printing supplies	1,650,000
Adhesives	266,000
Embossing foils	231,000
Tapes	54,000
Miscellaneous materials and supplies	402,000
Maintenance materials and supplies (F.C.)	1,082,000

Without a doubt, one of the most resilient marketing performances in the packaging industry is that of the rigid box. It is one of the few packaging forms that has maintained and expanded its sales value in the face of yielding nearly 80% of its largest single end use (textiles, apparel and hosiery) to competitors within a single decade.

Twenty years ago around 800 separate rigid box plants were listed in the *Official Container Directory*. Today this figure has been consolidated to 200-plus. These plants are producing rigid boxes of greater value than ever before, though consuming much less paperboard in the manufacture.

In trying to pinpoint the reason behind this continuing vitality, one has to look to the increasing economic strength of the remaining producers, who inherit a broader "consumer unit base" in their use of advanced equipment and techniques. The reduction in tonnage consumption of board may be attributed in large part to a wider use of accessory materials, such as plastic inserts, E-flute corrugated, lightweight folding-boxboard grades, and the like. These, in turn, have helped to offset increased costs of making and shipping the low-density box products.

A year ago, the National Paperbox & Packaging Association (NP&PA) predicted total growth of 1% for 1981 rigid paper box sales. For the first nine months of last year the NP&PA measured rigid paper box sales of its members to be 10.4% ahead of 1980. The U.S. government has announced a new system by which it calculates the level of inflation. Based on this new system, the Consumer Price Index would have risen to 9.2% instead of 11% and, consequently, NP&PA's prediction of 1% total growth is very close.

Depressed business

According to the NP&PA, increases in rigid box prices will help alleviate inflation. However, industry deterioration, in conjunction with the generally depressed state of business, will result in approximately a 6% shrinkage of industry output.

There are many reasons for the decline in rigid box demand to moderate. Inflation has had its impact on the lower end consumer product market where rigid boxes are too expensive. This has created a more definitive market for rigid box marketing and sales personnel to concentrate upon.

So, while rigid boxes have lost the lower end markets, they have made advances in the higher end of the market which includes collectibles, leisure products, craft products, hobby, toy, style items, and other status products. It also should be noted that rigid boxes are experiencing an ongoing growth of demand from electronics, advertising and promotional fields.

The Southeastern and Southwestern States represent the areas of increasing demand for rigid boxes. Shifts in population to the sunbelt should help to continue this trend. While Southern demand for rigid boxes is increasing, demand in the New England States is leveling off.

Age shifts

A factor that can't be overlooked when studying the rigid box industry is the shift in the nation's age balance. As the population in the U.S. slowly shifts from a youth majority to middle-aged and retired majorities, more of the population will have the means to buy the high-end consumer products very often packaged in rigid boxes.

Another important factor is the rise in dual-income families. Dual incomes reduce the impact of inflation and provide more discretionary money. Although dual wage earners have more to spend, the effects of inflation demand that they spend their money wisely for quality products which provide the best values. Again, these are the products at the high-end where rigid boxes will benefit from the demand.

The rigid box industry's trying period of transition is judged to have been for the most part successful, with the firms that have survived significantly strengthening their competitive positions. This was done not only through mergers and acquisitions but also through the establishment of other end use markets mentioned earlier. □